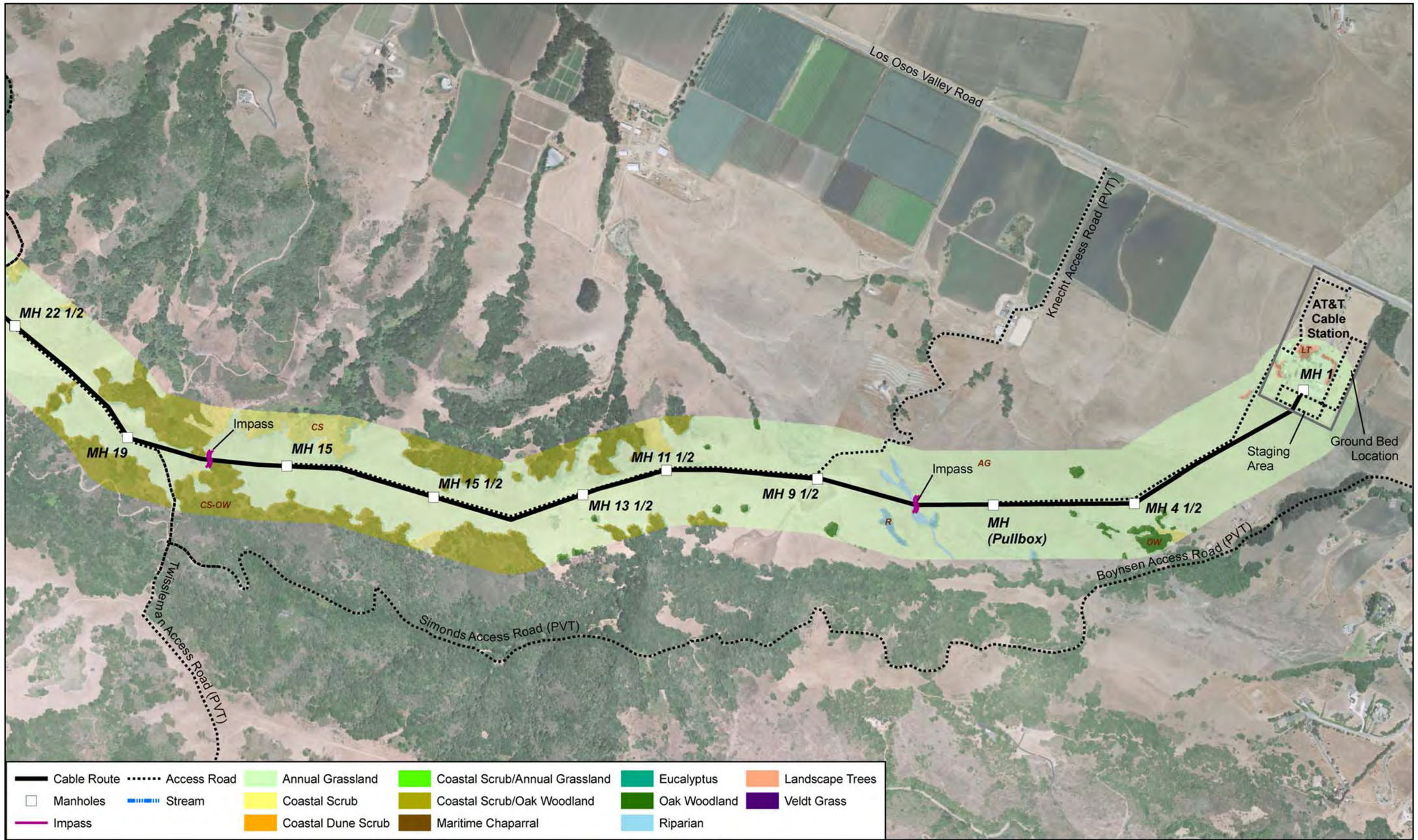

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Date: 6/11/08 By: S. Sutherland

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Asia America Gateway
Terrestrial Conduit Route
Biological Assessment Report

Biological Resources

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BIOLOGICAL RESOURCES
FIGURE 4.3-4

Back of Figure 4.3-4

more accurately characterize existing conditions in the field. The general locations of these communities in relation to the Project elements are depicted in Figures 4.3-1 to 4.3-4. The following is a description of each of the plant communities and sensitive habitats occurring within the Project site and typical wildlife species found in association with each of these habitats:

Central Dune Scrub. Central dune scrub is considered sensitive by the California Department of Fish and Game (CDFG) and the California Coastal Commission. Central dune scrub communities are generally located inland from coastal foredune communities and open sandy beaches (Holland 1986). This habitat is primarily established on recent to ancient coastal sand dunes. Away from the coast, these communities typically integrate with chaparral, coast live oak woodland, or coastal sage scrub communities. Species composition is highly variable, but central dune scrub communities generally contain high species diversity. Characteristic species include a variety of semi-woody shrubs such as mock heather (*Ericameria ericoides*), sand almond (*Prunus fasciculata* var. *punctata*), dune buckwheat (*Eriogonum parvifolium*), deerweed (*Lotus scoparius*), coastal silver lupine (*Lupinus chamissonis*), black sage (*Salvia mellifera*), and California sagebrush (*Artemisia californica*). Understory of central dune scrub communities is typically sparse and primarily comprised of various forbs and lichens. Characteristic understory species include California croton (*Croton californicus*), rush-rose (*Helianthemum scoparium*), California aster (*Lessingia filaginifolia*), and wedgeleaf horkelia (*Horkelia cuneata* ssp. *cuneata*). In some locations the invasive and non-native veldt grass (*Ehrharta calycina*) comprises a significant portion of the understory of this habitat.

Areas of central dune scrub are expected to support a variety of small mammal species such as Botta's pocket gopher, California mouse (*Peromyscus californicus*), and western harvest mouse *(Reithrodontomys megalotis).* Bird species that frequent central dune scrub habitats of the Project area include California towhee *(Pipilo crissalis),* rufous-sided towhee (*Pipilo erythropthalmus*), white-crowned sparrow (*Zonotrichia leucophrys*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), and scrub jay (*Aphelocoma coerulescens*). Reptiles including southern alligator lizard (*Elgaria multicarinata*), western skink (*Eumeces skiltonianus*), and western fence lizard (*Sceloporus occidentalis*) are also expected to occur in central dune scrub habitats of the Project area.

Central Maritime Chaparral. Central maritime chaparral communities occur in windswept coastal areas of central and northern California. This habitat is considered

sensitive by the CDFG and the California Coastal Commission. In San Luis Obispo County, central maritime chaparral is most often established on well-drained and stabilized sandy substrates near the coast, as well as on serpentine-derived soils. Central maritime chaparral communities are limited in distribution and typically form a mosaic with central dune scrub and coast live oak woodland. Understory within these areas is typically sparse and consists of a variety of forbs considered characteristic of central maritime chaparral and dune scrub communities. This community is dominated by stiffly branched, woody shrubs including Morro manzanita (*Arctostaphylos morroensis*), buckbrush (*Ceanothus cuneatus* var. *fascicularis*), black sage, and coffeeberry (*Rhamnus californica* ssp. *californica*). A variety of shrubs typical of central dune scrub communities and numerous pygmy oaks (*Quercus agrifolia* var. *frutescens*) occur as part of chaparral habitat along the ROW. Central maritime chaparral habitat forms a dense shrub cover along the ROW between manhole (MH) 90F and MH 96F. Larger mammals such as bobcat *(Lynx rufus*), coyote (*Canis latrans*), and deer (*Odocoileus hemionus*) may occur in areas of maritime chaparral located within the Project area, along with many species found in central dune scrub and coastal scrub habitats.

Central (Lucian) Coastal Scrub. Along the central coast, coastal sage scrub communities typically occur in pockets in the outer and inner southern coastal ranges and in scattered areas along the immediate coast. These communities typically integrate with a variety of habitat types including annual grassland, oak woodland, and chaparral communities. Species composition is highly variable and is dependent upon topography, soils, and slope aspect. Plants occurring in coastal sage scrub communities are characterized as aromatic, low-growing, and drought tolerant. Common plant species present include coyote brush (*Baccharis pilularis*), California sagebrush, sticky monkeyflower (*Mimulus aurantiacus*), poison oak (*Toxicodendron diversilobum*), and black sage. Understory within these communities is generally sparse and includes forbs such as plantain (*Plantago* sp.) and yarrow (*Achillea* sp.), and annual grass species. Along the Project ROW, coastal sage scrub communities are found at low elevations on the coast and along steep slopes with shallow soil. Wildlife species found within central dune scrub and maritime chaparral habitats are also generally found in association with coastal scrub habitats. Portions of this community within Montaña de Oro State Park provide habitat for the federally protected Morro shoulderband snail (*Helminthoglypta walkeriana*).

Riparian Habitat. Riparian communities are characterized as sparse to dense corridors of vegetation occurring adjacent to streams and rivers or in areas with a high ground

water table (Holland 1986). The structure of riparian communities within the Project area is variable and alternates between dense tree thickets (riparian woodland) and open, shrub-dominated areas (riparian scrub). In addition, species composition often varies along the course of various drainages in conjunction with changes in topography. Riparian communities are generally dominated by an overstory of arroyo willow (*Salix lasiolepis*), with some occurrence of western sycamore (*Platanus racemosa*), and American dogwood (*Cornus sericea*). Understory species include rush (*Juncus* sp.), mugwort (*Artemisia douglasiana*), poison hemlock (*Conium maculatum*), California blackberry (*Rubus ursinus*), poison oak, black nightshade (*Solanum douglasii*), and stinging nettle (*Urtica holosericea*).

Riparian habitats within the Project area are associated with Los Osos Creek, and within several small drainages and swales that cross the ROW or access roads. Creek and drainage channels and associated riparian habitats of the Project area, likely qualify as "Waters of the U.S.", thereby falling under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) per section 404 of the Clean Water Act, and under CDFG jurisdiction under section 1603 of the California Fish and Game Code.

Riparian habitats support a wide diversity of wildlife due to the availability of important features such as nesting sites, escape and thermal cover, food, and dispersal corridors. Animal species that utilize willow riparian habitat include striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginianus*), common garter snake (*Thamnophis sirtalis*) and various bird species. Some of the more common birds expected to nest in this habitat include, but are not limited to: Pacific-slope fly catcher (*Empidonax difficilis*), warbling vireo (*Vireo gilvus*), western scrub jay (*Aphelocoma californica*), Bewick's wren (*Thryomanes bewickii*), Wilson's warbler (*Wilsonia pusilla*), and American robin (*Turdus migratorius*).

Coast Live Oak Woodland. Coast live oak woodland communities are dominated by the evergreen coast live oak (*Quercus agrifolia*). This community generally does not form a continuous belt, but rather occurs as a mosaic closely associated with communities such as coastal sage scrub, coastal dune scrub, and annual grassland. Within the Montaña de Oro portion of the ROW, coast live oak woodland is represented by the pygmy coast live oak. These pygmy oaks are unique to the Los Osos region, and typically grow as small trees with branches bent to the ground. Understory within oak woodland is generally sparse, and includes species such as fuchsia-flowered gooseberry (*Ribes speciosum*), poison oak (*Toxicodendron diversilobum*), California chenopod (*Chenopodium californicum*), California figwort (*Scrophularia californica* ssp.

californica), hummingbird sage (*Salvia spathacea*), and miner's lettuce (*Claytonia perfoliata*). Oak woodland habitat is scattered throughout the ROW and along various access roads proposed for use during Project construction.

Oak woodlands generally provide good habitat for a large variety of wildlife species. They also contribute woody debris to the duff in the woodland understory that provides foraging areas for small mammals and microclimates suitable for amphibians and reptiles in addition to fungi. Acorns are a valuable food source for many animal species, including acorn woodpecker (*Melanerpes formicivorus*), western scrub jay (*Aphelocoma californica*), western gray squirrel (*Scirus griseus*), and black-tailed deer (*Odocoileus hemionus columbianus*).

Eucalyptus Woodland. Eucalyptus woodland is typically represented by dense stands of blue-gum trees (*Eucalyptus globulus*). Blue gum eucalyptus is considered an invasive plant species and the California Exotic Pest Council lists blue gum eucalyptus as a widespread aggressive invader. Plants in this genus, imported primarily from Australia, were originally planted in groves throughout many areas of coastal California as a potential source of lumber, for their use as windbreaks, and for their horticultural novelty. Stands of blue gum eucalyptus may reach 150 feet tall (46 meters [m]), towering over many tree species native to the area. In areas where eucalyptus forms dense stands, virtually no understory is present due to its allelopathic (i.e., growth inhibiting) properties, thereby altering plant community structure and dynamics. This community has limited wildlife habitat value other than roosting and nesting habitat for various bird species and, under certain conditions, the monarch butterfly. Several dense stands of eucalyptus woodland are present along the western portion of the ROW within Montaña de Oro State Park.

Annual Grassland. Annual grassland consists of non-native annual grasses and forbs of primarily Mediterranean origin. Annual grassland is extensive throughout the eastern portion of the Project area and is dominated by non-native grasses, native wildflowers, and weedy annual forbs (broadleaf plants). Scattered occurrences of native grass species, such as purple needlegrass (*Nassella pulchra*), are present within annual grassland areas along the ROW.

Typical non-native grasses present include wild oat (*Avena* sp.), soft chess (*Bromus hordeaceus*), red brome (*Bromus madritensis* ssp. *rubens*), Italian rye grass (*Lolium multiflorum*), and annual fescues (*Vulpia* sp.). Typical forbs associated with grassland communities of the area include a variety of native wildflowers such as California poppy

(*Eschscholzia californica*), goldfields (*Lasthenia* sp.), lupines (*Lupinus* sp.), owl's clover *(Castilleja* spp.), and blue-eyed grass (*Sisyrinchium bellum*), and non-native forbs such as summer mustard (*Hirschfeldia incana*), filaree (*Erodium* sp.), and plantain (*Plantago* sp.). San Luis Obispo owl's clover (*Castilleja densiflora* ssp*. obispoensis*), and Cambria morning-glory (*Calystegia subacaulis* ssp*. episcopalis*) are both present in annual grasslands along portions of the ROW. Both species are included on CNPS List 1B, a list of plants considered as rare, threatened, or endangered in California and elsewhere.

Raptors such as red-tailed hawk *(Buteo jamaicensis)*, white-tailed kite (*Elanus caeruleus*), barn owl *(Tyto alba),* and American kestrel (*Falco sparverius*), commonly use open grassland areas extensively for foraging purposes, while species such as western meadowlark (*Sturnella neglecta*) use open grassland areas for nesting. Reptiles that commonly breed within grassland habitats include western fence lizard, gopher snake, and western rattlesnake (*Crotalus viridis*).

Ruderal/Disturbed. Though not a true habitat community as defined by Holland (1986), ruderal areas are dominated by highly adaptive and invasive species with few to no native species present. Ruderal or disturbed habitat is typically found in areas altered by agriculture, construction, roadsides, and in other areas experiencing repeated ground surface disturbance. Common species in ruderal habitats include veldt grass, red brome, wild radish (*Raphanus sativus*), Russian thistle (*Salsola iberica*), sweet fennel (*Foeniculum vulgare*), bull thistle (*Cirsium vulgare*), prickly wild lettuce (*Lactuca serriola*), bur clover (*Medicago polymorpha*), sweet horseweed (*Conyza canadensis*), and telegraph weed (*Heterotheca grandiflora*). Ruderal habitats are present along portions of the ROW and along access roads.

Onshore Sensitive Habitats and Special-Status Species

Sensitive Communities

The CNDDB records eight habitats that are considered sensitive by State and/or Federal agencies as occurring within the Project vicinity: central dune scrub, central maritime chaparral, coastal and valley freshwater marsh, coastal brackish marsh, northern coastal salt marsh, northern interior cypress forest, serpentine bunchgrass, and valley needlegrass grassland. Based on Project-specific surveys, central dune scrub and central maritime chaparral were found in or immediately adjacent to the Project site. Additional sensitive habitats that occur within or adjacent to the Project site include sandy beach and riparian areas.

Special-Status Plant Species

Special-status plant species are either listed as endangered or threatened under the Federal or California Endangered Special Acts, or rare under the California Native Plant Protection Act, or considered to be rare (but not formally listed) by resource agencies, professional organizations (e.g., Audubon Society, CNPS, The Wildlife Society), and the scientific community. For the purposes of this Project, the definitions for determining a special-status plant species are provided in Table 4.3-2.

Table 4.3-2. Definitions of Special-Status Plant Species

Special-Status Plant Species
➢ Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species).
➢ Plants that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register Vol. 71, No. 176, pp. 53756-53835, September 12, 2006).
➢ Plants that meet the definitions of rare or endangered species under CEQA (*State CEQA Guidelines* section 15380).
➢ Plants considered by the CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in California Native Plant Society 2008).
➢ Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Lists 3 and 4 in California Native Plant Society 2008).
➢ Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5).
➢ Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).
➢ Plants considered sensitive by other Federal agencies (i.e., U.S. Forest Service, Bureau of Land Management), State and local agencies or jurisdictions.
➢ Plants considered sensitive or unique by the scientific community or occurring at the limits of its natural range (S*tate CEQA Guidelines* Appendix G).

Based on a query of the CNDDB and a review of pertinent literature, a list of potential special-status species occurring in the general vicinity of the Project was compiled. The results of the literature search conducted for this impact analysis indicates that 43 special-status plant species have the potential to occur in the Project region. Because the plant species list presented in Table 4.3-3 is regional, an analysis of the range and habitat preferences of those species was conducted to identify special-status species that have the potential to occur within the Project site based on suitable habitat, elevation, and soil types. Table 4.3-3 lists all of the special-status plant species that have the potential to occur within the Project region, their current status, general habitat description, blooming period, and the potential for occurrence within the vicinity of the Project site.

1 **Table 4.3-3. Special-Status Plant Species in the Project Region**

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Arctostaphylos cruzensis Arroyo de la Cruz manzanita	-- / -- / List 1B.2	Broad-leafed upland forest, closed-cone coniferous forest, coastal bluff scrub, chaparral, coastal scrub, and grasslands; sandy soil. 200-1,020 feet (60-310 meters).	December to March	Present along ROW between MH 32.5 and MH 36.5.
Arctostaphylos luciana Santa Lucia manzanita	-- / -- / List 1B.2	Chaparral, cismontane woodland; shale soil. 1,155-2,810 feet (350-850 meters).	December to March	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Southeast of Los Osos on Clark Valley Road, Swift Ranch (CNDDB 2008).
Arctostaphylos morroensis Morro manzanita	FT / -- / List 1B.1	Chaparral, cismontane woodland, coastal dunes, coastal scrub; sandy soil. 17-677 feet (5-205 meters).	December to March	Present and abundant between MH 96F and MH 89F in Montaña de Oro State Park.
Arctostaphylos osoensis Oso manzanita	-- / -- / List 1B.2	Chaparral, cismontane woodland; dacite porphyry buttes. 990-1,650 feet (300-500 meters). Narrowly endemic to mountains north of Los Osos Valley, San Luis Obispo County.	February to March	No suitable dacite soil is present within the Project ROW; species was not observed during field surveys. Nearest known location: Northwest slope of Hollister Peak, east of Morro Bay (CNDDB 2008).
Arctostaphylos pechoensis Pecho manzanita	-- / -- / List 1B.2	Closed-cone coniferous forest, chaparral, coastal scrub; shale soil. 410-2,640 feet (125-850 meters). Narrowly endemic to coastal mountains of San Luis Obispo County.	November to March	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Clark Valley Road, 2.8 miles (4.5 km) south of Los Osos Valley Road, east of Los Osos. (CNDDB 2008).

1 **Table 4.3-3. (Continued)**

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Arctostaphylos tomentosa ssp. *daciticola* Dacite manzanita	-- / -- / List 1B.1	Chaparral, cismontane woodland. Known form only one site in San Luis Obispo County on dacite porphyry buttes; 330-990 feet (100-300 meters).	March	No suitable dacite soil is present within the Project ROW; species was not observed during field surveys. Nearest known location: Lower north slope of Hollister Peak, east of Morro Bay (CNDDB 2008).
Arctostaphylos wellsii Well's manzanita	-- / -- / List 1B.1	Chaparral, broad-leaf upland forest, closed-cone coniferous forest; sandstone outcrops. 100-1,320 ft (31-400 meters).	December to May	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Upper Coon Creek, Southwest of San Luis Obispo (CNDDB 2008).
Arenaria paludicola Marsh sandwort	FE / SE / List 1B.1	Bogs and fens, freshwater marshes and swamps. 10-560 feet (3-170 meters).	May to August	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Sweet Springs Audubon Nature Preserve, Los Osos (CNDDB 2008).
Astragalus didymocarpus var. *milesianus* Mile's milk-vetch	-- / -- / List 1B.2	Coastal scrub associated with clay soils. 66-300 feet (20-90 meters).	March to June	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: San Bernardo Creek, east of Morro Bay (CNDDB 2008).

1 **Table 4.3-3. (Continued)**

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Atriplex joaquiniana San Joaquin spearscale	-- / -- / List 1B.2	Meadows and seeps, chenopod scrub, valley and foothill grassland, playas; alkaline soil. 3.3-2,760 feet (1-835 meters).	April to October	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Mapped in vicinity of Morro Bay (CNDDB 2008).
Calochortus obispoensis San Luis mariposa-lily	-- / -- / List 1B.2	Chaparral, coastal scrub, and valley and foothill grasslands, associated with serpentine soil. 250-2,410 feet (75-730 meters).	May to July	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Irish Hills along Prefumo Canyon Road near head of Cook Creek (CNDDB 2008).
Calochortus simulans San Luis Obispo mariposa-lily	-- / -- / List 1B.3	Valley and foothill grassland, cismontane woodland, chaparral; decomposed granite. 1,300-3,600 feet (395-1,100 meters).	April to May	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: City of San Luis Obispo, end of Margarita Avenue, approximately 0.7 mile (1.1 km) east of Highway 101 (CNDDB 2008).
Calystegia subacaulis ssp. *episcopalis* Cambria morning-glory	-- / -- / List 1B.2	Chaparral, cismontane woodland, and grasslands. 200-1650 feet (60-500 meters).	March to July	Present along portions of the ROW between MH 9.5 and MH 4.5, and near MH 69.5.

1 **Table 4.3-3. (Continued)**

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Carex obispoensis San Luis Obispo sedge	-- / -- / List 1B.2	Closed-coned forest, chaparral, coastal prairie, coastal scrub, and foothill grasslands, often associated with serpentine or clay soil. 33-2,610 feet (10-790 meters).	April to June	Suitable habitat is present within the Los Osos Creek; species was not observed during field surveys within the Project ROW. Nearest known location: First ridge west of Cerro Romualdo, Camp San Luis Obispo (CNDDB 2008).
Castilleja densiflora ssp. *obispoensis* San Luis Obispo owl's clover	-- / -- / List 1B.2	Valley and foothill grassland; often serpentine soil. 33-1,320 feet (10-400 meters).	March to May	Present along portions of the ROW between MH 9.5 and MH 4.5, and near MH 69.5.
Centromadia parryi ssp. *congdonii* Condon's tarplant	- / - / List 1B.2	Valley and foothill grassland associated with alkaline soils. 3-760 feet (1-230 meters).	May to October (November)	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Froom Ranch, north of Froom Creek, 0.5 mile NNW of Junction of Los Osos Valley Road and US 101 (CNDDB 2008).
Chlorogalum pomeridianum var. *minus* Dwarf soaproot	- / - / List 1B.2	Chaparral, valley and foothill grassland; serpentine soil. 830-3,300 feet (250-1000 meters).	May to August	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Guard Hill at Camp San Luis, off Highway 1 (CNDDB 2008).

1 **Table 4.3-3. (Continued)**

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Chorizanthe breweri Brewer's spineflower	-- / -- / List 1B.3	Chaparral, cismontane woodland, coastal scrub, closed-coned forest in rocky or gravelly serpentine sites. 150-2,640 feet (45-800 meters).	April to August	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Camp San Luis, upper Chorro Creek Reservoir, east of Highway 1 (CNDDB 2008).
Cirsium fontinale var. *obispoense* San Luis Obispo fountain thistle	FE / SE / List 1B.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, associated with serpentine seeps. 116-1250 feet (35-380 meters).	February to July (August to September)	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Camp San Luis near Chorro Creek Headwaters, east of Hwy 1 (CNDDB 2008).
Cirsium loncholepis La Graciosa thistle	FE / SE / List 1B.1	Coastal dunes, cismontane woodland, brackish marshes and swamps, valley and foothill grassland; sandy soil. 13-730 feet (4-220 meters).	May to August	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Laguna Lake County Park near Madonna Road in San Luis Obispo (CNDDB 2008).
Cordylanthus maritimus ssp. *maritimus* Salt marsh bird's-beak	FE / SE / List 1B.2	Coastal salt marsh, coastal dunes. 0-100 feet (0-31 meters).	May to October	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: North end of Morro Sandspit at mouth of Bay, Montaña De Oro (CNDDB 2008).

Table 4.3-3. (Continued)

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Dithyrea maritima Beach spectaclepod	-- / ST / List 1B.1	Coastal dunes and coastal scrub along sea shores. 10-165 feet (3-50 meters).	March to May	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Montaña de Oro State Park, 0.9-mile WNW of the junction of Los Osos Valley Rd. and Pecho Rd. (CNDDB 2008).
Dudleya abramsii ssp. *bettinae* Betty's dudleya	-- / -- / List 1B.2	Coastal scrub, grasslands, chaparral; barren exposures of serpentine. 66-590 feet (20-180 meters).	May to July	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Serpentine outcrop on a volcanic hill near the mouth of Chorro Creek (CNDDB 2008).
Dudleya abramsii ssp. *murina* Mouse-gray dudleya	-- / -- / List 1B.3	Chaparral, cismontane woodlands, grasslands; serpentine outcrops. 300-1,450 feet (90-440 meters).	May to June	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Southeast of Baywood Park, near Prefumo Canyon Road (CNDDB 2008).
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	-- / -- / List 1B.1	Coastal scrub, coastal bluff scrub, grasslands with shallow rocky slopes, often clay or serpentine soil. 17-1,490 feet (5-450 meters).	April to June	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Morro Bay (CNDDB 2008).

1 **Table 4.3-3. (Continued)**

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Erigeron blochmaniae Blochman's leafy daisy	-- / -- / List 1B.2	Coastal dunes, coastal scrub; 10-610 feet (3-185 meters). Endemic to San Luis Obispo County.	July to August	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Montaña de Oro State Park, Morro Bay Sandspit (CNDDB 2008).
Eriodictyon altissimum Indian Knob mountainbalm	FE / SE / List 1B.1	Maritime chaparral, cismontane woodland, coastal scrub, associated with Pismo sandstone. 260-890 feet (80-270 meters).	March to June	Suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Hazards Canyon, south of Los Osos (CNDDB 2008).
Eryngium aristulatum var. *hooveri* Hoover's button-celery	- / - / List 1B.1	Vernal pools; 10-150 feet (3-45 meters).	July	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Tank Farm Road vicinity, San Luis Obispo (CNDDB 2008).
Fritillaria viridea San Benito fritillary	-- / -- / List 1B.2	Chaparral, serpentine slopes. 660-5,030 feet (200-1,525 meters).	March to May	No suitable serpentine soil is present within the Project ROW; species was not observed during field surveys. Nearest known location: 6 miles (9.7 km) above Morro Bay on Hwy 41 (CNDDB 2008).

1 **Table 4.3-3. (Continued)**

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Horkelia cuneata ssp. *puberula* Mesa horkelia	- / - / List 1B.1	Chaparral, cismontane woodland, coastal scrub; sandy/gravelly soil. 230-2,670 feet (70-810 meters).	February to September	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Cuesta Ridge, in Botanical Area (CNDDB 2008).
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	-- / -- / List 1B.1	Marshes and swamps, playas, vernal pools. 3.3-4,030 feet (1-1,220 meters).	February to June	No suitable serpentine soil is present within the Project ROW; species was not observed during field surveys. Nearest known location: Baywood Park at Sweet Springs Marsh, southern end of Morro Bay Salt Marsh (CNDDB 2008).
Layia jonesii Jones' layia	-- / -- / List 1B.2	Chaparral, valley and foothill grasslands; clay and serpentine soil. 17-1,320 feet (5-400 meters).	March to May	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: 1.0 mile (1.6 km) up San Bernardo Creek, east of Morro Bay (CNDDB 2008).
Monardella crispa Crisp monardella	-- / -- / List 1B.2	Coastal dunes, coastal scrub. 33-400 feet (10-120 meters).	April to August	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Hazard Canyon (CNDDB 2008).

1 **Table 4.3-3. (Continued)**

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Monardella frutescens San Luis Obispo monardella	-- / -- / List 1B.2	Coastal dunes, coastal scrub along immediate coast. 33-660 feet (10-200 meters).	May to September	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: South of Morro Bay (CNDDB 2008).
Monardella palmeri Palmer's monardella	-- / -- / List 1B.2	Chaparral, cismontane woodland associated with serpentine soil. 660-2,640 feet (200-800 meters).	June to August	No suitable serpentine soil is present within the Project ROW; species was not observed during field surveys. Nearest known location: East of Chorro Creek, near Camp San Luis (CNDDB 2008).
Poa diaboli Diablo Canyon blue grass	-- / -- / List 1B.2	Chaparral, closed-cone coniferous forest, cismontane woodland, coastal scrub associated with shale and burned areas. 400-1,320 feet (120-400 meters).	March to April	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: North slopes of Valencia Peak, Montaña de Oro State Park (CNDDB 2008).
Sanicula maritima Adobe sanicle	-- / -- / List 1B.1	Meadows and seeps, valley and foothill grassland, chaparral, coastal prairie; clay or ultramafic soil. 100-790 feet (31-240 meters).	February to May	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Laguna Lake County Park in San Luis Obispo (CNDDB 2008).

Table 4.3-3. (Continued)

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Senecio aphanactis Chaparral ragwort	-- / -- / List 2.2	Cismontane woodland, chaparral, coast scrub; alkaline soil. 50-2,640 feet (15-800 meters).	January to April	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Camp San Luis near Chorro Reservoir (CNDDB 2008).
Sidalcea hickmanii ssp. *anomala* Cuesta Pass checkerbloom	-- / SR / List 1B.2	Closed-cone coniferous forest; rocky serpentine soil. 1,980-2,640 feet (600-800 meters).	May to June	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Chorro Creek along south side of Cuesta Ridge, Santa Lucia Range (CNDDB 2008).
Streptanthus albidus ssp. *peramoenus* Most beautiful jewel flower	-- / -- / List 1B.2	Chaparral, valley and foothill grassland, cismontane woodland; serpentine outcrops on slopes and ridges. 310-3,300 feet (94-1,000 meters).	March to October	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: 1.0 mile (1.6 km) west of Cerro Romualdo (CNDDB 2008).
Suaeda californica California seablite	FE / -- / List 1B.1	Marshes and swamps (coastal salt). 0-50 feet (0-15 meters).	July to October	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Within Morro Bay Marina (Padre, 2008); southeast of Morro Bay, along the peninsula of Baywood Park (CNDDB 2008).

Table 4.3-3. (Continued)

Scientific Name **Common Name**	**Status (Federal/State/ CNPS or CNDDB)**	**General Habitat Description with Elevation Range**	**Blooming Period**	**Potential for Occurrence**
Sulcaria isidiifera Splitting yarn lichen	-- / -- / G1, S1	Chaparral, cismontane woodland; on branches of oaks and shrubs. 66-100 feet (20-31 meters).	N/A	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: North of Baywood, south of Morro Bay State Park and Los Osos Oaks State Reserve (CNDDB 2008).
Trifolium depauperatum var. *hydrophilum* Saline clover	- / - / List 1B.2	Marshes and swamps, valley and foothill grassland, vernal pools; alkaline soil. 0-990 feet (0-300 meters).	April to June	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Laguna Lake County Park, San Luis Obispo (CNDDB 2008).

Status Codes:

Federal:

FE Federal Endangered (USFWS)

FT Federal Threatened (USFWS)

State:

SE State Endangered (CDFG)

ST State Threatened (CDFG)

SR State Rare

Other Codes:

MH Manhole

California Native Plant Society (CNPS):

List 1B - Plants rare, threatened, or endangered in California and elsewhere.

List 2 - Rare, threatened, or endangered in California, but more common elsewhere.

Threat Codes:

0.1 Seriously endangered in California

0.2 Fairly endangered in California

0.3 Not very endangered in California

CNDDB Global and State Ranks:

G1 - Extremely endangered globally: <6 viable occurrences, or <1,000 individuals, or < 2,000 acres of occupied habitat (CNDDB)

S1 - Extremely endangered within State: <6 viable occurrences, or <1,000 individuals, or < 2,000 acres of occupied habitat (CNDDB)

S2 - 6-20 element occurrences (EOs) or 1,000-3,000 individuals or 2,000-10,000 acres

S3 - 21-100 EOs or 3,000-10,000 individuals or 10,000-50,000 acres

To determine the presence and/or absence of the special-status plant species listed in Table 4.3-3 focused botanical surveys of the Project site were conducted by Morro Group biologists in May and June, 2008, during the typical flowering period for the majority of the species listed.

Special-status plant species that could potentially occur within the Project site based on suitable habitat or known occurrences include Santa Lucia manzanita, Pecho manzanita, Indian knob mountainbalm, Mile's milk-vetch, Brewer's spineflower, salt marsh bird's-beak, Blochman's dudleya, Blochman's leafy daisy, Jones' layia, mesa horkelia, crisp monardella, chaparral ragwort, and splitting-yarn lichen. The following four special-status plant species are also known to occur within the Project ROW: Arroyo de la Cruz manzanita, Morro manzanita, Cambria morning-glory, and San Luis Obispo owl's clover.

For the purposes of impact analysis, the following briefly presents the legal status and applicable ecological and range information for special-status plant species identified within the proposed Project impact areas and for those that have a high likelihood of occurrence:

Arroyo de la Cruz manzanita (*Arctostaphylos cruzensis*). This species is a low growing shrub occurring in northwestern San Luis Obispo County. It is endemic to California and is considered rare and fairly endangered in California by the CNPS (List 1B.2). This woody, perennial shrub typically blooms from December to March and occurs in broad-leafed upland forest, closed-cone coniferous forest, coastal bluff scrub, chaparral, coastal scrub, and grassland habitats. This shrub is documented as occurring in the vicinity of Hollister Peak, in the Irish Hills, and in Montaña de Oro State Park.

Numerous Arroyo de la Cruz manzanita are present along the ROW in coastal scrub and oak woodland habitats between MH 32.5 and MH 36.5. No Arroyo de la Cruz manzanita will be removed as part of the Project, but pruning of several manzanita shrubs will be necessary for equipment access for cable pulling activities.

Morro manzanita (*Arctostaphylos morroensis*). Morro manzanita is endemic to San Luis Obispo County and its entire known distribution is restricted to the sandy soils (Baywood fine sand) around the southern end of Morro Bay. The species reaches its northern limit in the El Morro Elfin Forest with minor exceptions such as near the Morro Bay Natural History Museum. Its southernmost and westernmost limits are in the vicinity of Hazard Canyon in Montaña de Oro State Park. It often occurs in nonspecific stands on the sandy hillsides south of Los Osos. Morro manzanita habitats around Los

Osos south of Morro Bay have been drastically reduced over the years, primarily as a result of residential development, which is its major threat. This woody, perennial shrub typically blooms from December to March. Morro manzanita is listed as a federally threatened species and is considered rare and endangered in California by the CNPS (List 1B.1).

Numerous Morro manzanita are present along the ROW from Hazard Canyon Road to MH 90F. Morro manzanita is the dominant plant species present along the route between MH 94F and MH 90F. No Morro manzanita will be removed as part of the Project, but pruning of numerous manzanita will be necessary for equipment access for cable pulling and erosion repair activities.

Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalis*). Cambria morning-glory is a perennial herb in the morning-glory family (Convolvulaceae) that is endemic to California and found only in San Luis Obispo County. It primarily occurs in chaparral and woodland habitats (CNPS 2008; Hickman 1993), but is also known to occur in grasslands on clay soils (Hoover 1970) and in coastal scrub. It typically blooms from April to June occasionally blooming as early as March and as late as July. The CNPS considers this species to be rare and fairly endangered in California (List 1B.2), but it has been observed to be locally common in areas surrounding San Luis Obispo.

Cambria morning-glory is present in annual grasslands along portions of the ROW between MH 4.5 and 9.5, and east of MH 69.5. Project activities in these areas, consisting of driving along the ROW and adjacent ranch roads, are not expected to impact this species.

San Luis Obispo owl's clover (*Castilleja densiflora* ssp. *obispoensis*). San Luis Obispo owl's clover is an annual herb in the figwort family (Scrophulariaceae) that is endemic to California and found only in San Luis Obispo County. It is found in valley and foothill grasslands as well as meadows and seeps, often on serpentine soils. It typically flowers from March to May. The CNPS considers this species to be rare and fairly endangered in California (List 1B.2).

San Luis Obispo owl's clover is present in annual grasslands along portions of the ROW between MH 4.5 and 9.5, and east of MH 69.5. Project activities in these areas, consisting of driving along the ROW and adjacent ranch roads, are not expected to impact this species.

Santa Lucia manzanita (*Arctostaphylos luciana*). Santa Lucia manzanita is a tree-like evergreen shrub endemic to San Luis Obispo County. This species is considered rare and fairly endangered in California by the CNPS (List 1B.2). Santa Lucia manzanita typically blooms December to March and occurs in chaparral and cismontane woodland habitats with shale soil. This species is locally abundant and in places forms pure stands in the white shale area south of Cuesta Pass; however, it is rare northward (Hoover 1970). Santa Lucia manzanita was not observed within the Project ROW or associated access routes during the field surveys; therefore, the proposed Project is not expected to impact this species.

Pecho manzanita (*Arctostaphylos pechoensis*). Pecho manzanita is a tree-like evergreen shrub that occurs in closed-cone coniferous forest, chaparral and coastal scrub habitats. This species is considered rare and fairly endangered in California by the CNPS (List 1B.2). Pecho manzanita is localized in the western part of the San Luis Range, from See Canyon down to the coast near the mouth of Coon Creek. This species typically blooms November to March. No Pecho manzanita were observed within the Project site during field surveys; therefore, the proposed Project is not expected to impact this species.

Indian knob mountainbalm (*Eriodictyon altissimum*). Indian knob mountainbalm is a Federal- and State-listed endangered species and considered rare and endangered in California by the CNPS (List 1B.1). Indian knob mountainbalm occurs in maritime chaparral, cismontane woodland, and coastal scrub habitats and is generally associated with sandstone ridges. This species is known from various coastal areas in San Luis Obispo County, and has been reported from areas of Montaña de Oro and southern portions of Los Osos (Skinner and Pavlik 1994). The typical flowering period for this evergreen shrub is March through June. Potential habitat for Indian knob mountainbalm is present within the Project site but it was not observed during field surveys; therefore, the likelihood of occurrence of Indian knob mountainbalm within the Project ROW and associated access routes is considered low.

Mile's milk-vetch (*Astragalus didymocarpus* var*. milesianus*). Mile's milk-vetch is an annual herb in the pea family (Fabaceae) that primarily occurs in coastal scrub habitat associated with clay soils. This species typically blooms from March through June and is considered rare and fairly endangered in California by the CNPS (List 1B.2). Mile's milk-vetch is common in herbaceous plant communities of interior San Luis Obispo County in sandy soils, friable clay, and crumbling shale (Hoover 1970). Mile's milk-vetch was not observed within the Project ROW or associated access routes during

appropriately timed field surveys; therefore, the proposed Project is not expected to impact this species.

Brewer's spineflower (*Chorizanthe breweri*). Brewer's spineflower occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub habitats, primarily on serpentine substrates. This species is known primarily from the southern portion of the Santa Lucia Range, from Morro Creek to the East Fork of Corral de Piedra Creek (Hoover 1970). The typical flowering period for this annual herb is April to August. No Brewer's spineflower was observed during appropriately timed Project-specific field surveys; therefore, the proposed Project is not expected to impact this species.

Salt marsh bird's-beak (*Cordylanthus maritimus* ssp*. maritimus*). Salt marsh bird's-beak is a Federal- and State-listed endangered species that occurs in coastal dunes and coastal salt marshes and swamps from northern Baja California to San Luis Obispo County. This species typically blooms from May to October. In the Morro Bay area salt marsh bird's beak has been observed at the northern end of the Morro Bay Sandspit, at the south end of Morro Bay near Mitchell Drive, and near the Sweet Springs Marsh at Baywood Park. Salt marsh bird's-beak was not observed within the vicinity of the Project during field surveys; therefore, the proposed Project is not expected to impact this species.

Blochman's dudleya (*Dudleya blochmaniae ssp. blochmaniae)*. Blochman's dudleya is a perennial herb in the Crassulaceae family that generally occurs in coastal bluff scrub, chaparral, coastal scrub and valley and foothill grasslands on shallow rocky slopes, often in clay or serpentine soil. This species is considered seriously endangered in California and rare, threatened, or endangered in California and elsewhere by CNPS (List 1B.1). Blochman's dudleya occurs in Los Angeles, Orange, Santa Barbara, San Diego, San Luis Obispo and Ventura counties. This species typically blooms April to June. No Blochman's dudleya was observed within the Project ROW or associated access routes during appropriately timed field surveys; therefore, the proposed Project is not expected to impact this species.

Blochman's leafy daisy (*Erigeron blochmaniae*). Blochman's leafy daisy is considered rare and fairly endangered in California by the CNPS (List 1B.2). This species occurs in coastal dunes and coastal scrub habitats within San Luis Obispo and Santa Barbara Counties, near Morro Bay and from Pismo Beach southward (Hoover 1970). Blochman's leafy daisy is a rhizomatous herb in the sunflower family (Asteraceae) that

typically blooms from June to August. This species was not observed within the Project ROW or associated access routes during field surveys; therefore, the proposed Project is not expected to impact this species.

Jones' layia (*Layia jonesii*). Jones's layia is considered rare and fairly endangered in California by the CNPS (List 1B.2). Within San Luis Obispo County, Jones' layia is known to range primarily from the Cayucos area south to San Luis Obispo. This species occurs in chaparral and valley and foothill grassland habitats on clay or serpentine substrates. The CNDDB has documented Jones' layia as occurring adjacent to San Bernardo Creek, east of Morro Bay (Hoover 1970). The typical flowering period for this annual herb is March to May. Jones' layia was not observed during Project-specific field surveys; therefore, the proposed Project is not expected to impact this species.

Mesa horkelia (*Horkelia cuneata* ssp. *puberula*). Mesa horkelia is a perennial herb in the rose family (Rosaceae) that typically occurs in chaparral, cismontane woodland and coastal scrub habitats on sandy or gravelly substrates. This species is considered seriously endangered in California and rare, threatened, or endangered in California and elsewhere by the CNPS (List 1B.1). Mesa horkelia typically blooms February to July and occasionally into September. Within San Luis Obispo County, this species is known to occur in dry, sandy places in the upper Salinas Valley from the vicinity of Atascadero southward and in the southern coastal area from Indian Knob ridge (north of Pismo Beach) southward (Hoover 1970). Mesa horkelia was not observed within the Project ROW or associated access routes during field surveys; therefore, the proposed Project is not expected to impact this species.

Crisp monardella (*Monardella crispa*). Crisp monardella is considered rare and fairly endangered in California by the CNPS (List 1B.2). This species is a rhizomatous herb in the mint family (Lamiaceae) that typically blooms from April to August. Crisp monardella generally occurs in coastal dunes in open sandy areas, adjacent to backdune scrub habitat. Crisp monardella occurs in San Luis Obispo and Santa Barbara counties in coastal sands from Oceano southward and is known to hybridize with *M. frutescens.* Crisp monardella was not observed during field surveys; therefore, the proposed Project is not expected to impact this species.

Chaparral ragwort (*Senecio aphanactis*). Chaparral ragwort is an annual herb in the sunflower family (Asteraceae) that occurs in chaparral, cismontane woodland, and coastal scrub habitats, on alkaline soils. This species typically blooms January to April

and is considered rare, threatened, or endangered in California, but more common elsewhere by the CNPS (List 2.2). Chaparral ragwort is known to occur in areas of serpentine rock around San Luis Obispo and on barren, gravelly, or sandy slopes east of Creston (Hoover 1970). Chaparral ragwort was not observed within the Project ROW or associated access routes during field surveys; therefore, the proposed Project is not expected to impact this species.

Special Status Wildlife Species

For the purposes of this Project, the definitions for determining a special-status onshore/terrestrial wildlife species are provided in Table 4.3-4. The results of the literature search and a query of the CNDDB conducted for this impact analysis indicates that 35 special-status wildlife species have the potential to occur in the Project region. Information regarding regulatory status, general habitat description, and potential for these species to occur in the vicinity of the Project is provided in Table 4.3-5. Because the wildlife species list presented in Table 4.3-5 is regional, an analysis of the range and habitat preferences of those species was conducted to identify special-status species that have the potential to occur within the Project site based on suitable habitat. Additional discussion of special-status wildlife species that may occur within the Project area is provided below.

Table 4.3-4. Definitions of Special-Status Wildlife Species

Special-Status Animal Species
➢ Animals listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
➢ Animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register Vol. 71, No. 176, pp. 53756-53835, September 12, 2006).
➢ Animals that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines* Section 15380).
➢ Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5).
➢ Animal species of special concern to the CDFG (Remsen 1978 for birds; Williams 1986 for mammals).
➢ Animal species that are fully protected in California (California Fish and Game Code, section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Table 4.3-5. Special-Status Wildlife Species in the Project Region

Common Name *Scientific Name*	Status Federal/ State/ Other	General Habitat Description	Potential for Occurrence
Invertebrates			
Morro Bay blue butterfly *Plebejus icarioides moroensis*	-- / -- / S1S3	Coastal dunes and adjacent habitat.	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: Morro Bay (CNDDB 2008).
Monarch butterfly *Danaus plexippus*	-- / -- / S3	Winter roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress).	Potential for wintering sites in eucalyptus habitat; species was not observed during field surveys. Nearest known location: North side of Hazard Cove along Pecho Valley Rd., Montaña de Oro State Park (CNDDB 2008).
Morro shoulderband snail *Helminthoglypta walkeriana*	FE / -- / --	Coastal dune and coastal scrub.	Present in dune scrub and coastal scrub habitats in the Montaña de Oro portion of the Project Site (see Figure 4.3-1).
California brackish water snail *Tyronia imitator*	-- / -- / S2S3	Coastal lagoons, estuaries, and salt marshes; found only in permanently submerged areas.	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Los Osos Creek Marsh, near Turri Road and South Bay Blvd. intersection (CNDDB 2008).
Sandy beach tiger beetle *Cicindela hirticollis gravida*	-- / -- / S1	Coastal areas adjacent to non-brackish water; clean, dry light-colored sand in the upper zone.	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Morro Strand Beach (CNDDB 2008).
Vernal pool fairy shrimp *Branchinecta lynchi*	FE / -- / S2S3	Vernal pools.	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: South end of San Luis Obispo near Tank Farm Road (CNDDB 2008).
California linderiella *Linderiella occidentalis*	-- / -- / S2S3	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions.	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Near Dairy Creek and Chorro Creek near Camp San Luis (CNDDB 2008).
San Luis Obispo pyrg *Pyrgulopsis taylori*	-- / -- / S1	Freshwater habitats in San Luis Obispo County.	Suitable habitat is present within Los Osos Creek; species was not observed during field surveys. Nearest known location: Camp San Luis near Highway 1 (CNDDB 2008).

1 **Table 4.3-5. (Continued)**

Common Name *Scientific Name*	Status Federal/ State/ Other	General Habitat Description	Potential for Occurrence
Atascadero June beetle *Polyphylla nubile*	-- / -- / S1	Sand dunes.	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: San Luis Obispo (CNDDB 2008).
Globose dune beetle *Coelus globosus*	-- / -- / S1	Coastal sand dune habitat.	Suitable habitat is present within the Project area; species was not observed during field surveys. Nearest known location: 3 miles (4.8 km) north of Point Buchon (CNDDB 2008).
Fish			
South-central California coast steelhead *Oncorhynchus mykiss irideus*	FT / CSC / --	Coastal streams.	Steelhead are known to inhabit Los Osos Creek, which crosses the Project ROW.
Tidewater goby *Eucyclogobius newberryi*	FE / CSC / S2S3	Brackish water habitats.	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: 0.5 mile south of Montaña de Oro State Park southern boundary, 0.25 mile (0.4 km) offshore (CNDDB 2008).
Reptiles			
Black legless lizard *Anniella pulchra nigra*	-- / CSC / S2	Sandy or loose loamy soils (dunes) under sparse vegetation. Soils with high moisture content.	Potential of occurrence in coastal dune scrub habitat; species was not observed during field surveys. Nearest known location: Location information suppressed (CNDDB 2008).
Southwestern pond turtle *Clemmys marmorata pallida*	-- / CSC / S2	Vegetated ponds, lakes, marshes, and slow moving streams with deep pools and basking sites.	Southwestern pond turtles are known to inhabit Los Osos Creek, which crosses the Project ROW.
Coast (California) horned lizard *Phrynosoma coronatum frontale*	-- / CSC / S3S4	Frequents a variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Potential of occurrence in coastal scrub and woodland habitats; species was not observed during field surveys. Nearest known location: Southeast edge of Los Osos (CNDDB 2008).

1 **Table 4.3-5. (Continued)**

Common Name *Scientific Name*	Status Federal/ State/ Other	General Habitat Description	Potential for Occurrence
Silvery legless lizard *Anniella pulchra pulchra*	-- / CSC / S3	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. Prefers soils with high moisture content.	Potential of occurrence in coastal dune scrub habitat. Nearest known location: 0.5 mile (0.8 km) east of intersection of South Bay Blvd. and Santa Ysabel Ave., just east of Baywood (CNDDB 2008).
Two-striped garter snake *Thamnophis hammondii*	-- / CSC / --	Riverine wetlands, permanent freshwater along streams with rocky beds and riparian vegetation.	Potential for occurrence in Los Osos Creek; species was not observed during field surveys. Nearest known location: Pico Creek, San Simeon (CNDDB 2008).
Amphibians			
Coast Range newt *Taricha torosa torosa*	-- / CSC / S4	Terrestrial habitats near breeding ponds (1 km), reservoirs and slow moving streams.	Potential for occurrence in Los Osos Creek; species was not observed during field surveys. Nearest known location: Unnamed tributary to Santa Margarita Creek, 5 miles (8 km) NNE of San Luis Obispo (CNDDB 2008).
California tiger salamander *Ambystoma californiense*	FT / CSC / S2S3	Burrows grassland or open woodland habitats near vernal pools or occasionally permanent pools and ponds.	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: 1 mile (1.6 km) north of San Luis Obispo (CNDDB 2008).
California red-legged frog *Rana aurora draytonii*	FT / CSC / S2S3	Lowlands, foothills, and riparian areas in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	The California red-legged frog is known to occur in Los Osos Creek, which crosses the Project ROW.
Birds			
Burrowing owl *Athene cunicularia*	-- / CSC / S2	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals.	Potential for breeding and foraging within grassland habitat; species was not observed during field surveys. Nearest known location: 2 miles (3.2 km) ENE of Cuesta Community College on Highway 1 (CNDDB 2008).
California black rail *Laterallus jamaicensis*	-- / ST / FP / S1	Freshwater marshes, wet meadows, and shallow margins of saltwater marshes. Dense vegetation needed for nesting.	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Sweet Springs Preserve, adjacent to Cuesta-by-the-Sea at the south end of Morro Bay (CNDDB 2008).

1 **Table 4.3-5. (Continued)**

Common Name *Scientific Name*	Status Federal/ State/ Other	General Habitat Description	Potential for Occurrence
California clapper rail *Rallus longirostris obsoletus*	FE / SE / FP / S1	Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed.	No suitable habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Morro Bay (CNDDB 2008).
Cooper's hawk (nesting) *Accipiter cooperii*	-- / CSC / S3	Open, interrupted riparian woodland and live oaks in canyons and flood-plains.	Potential for occurrence in riparian habitat along Los Osos Creek; species was not observed during field surveys. Nearest known location: Baywood (CNDDB 2008).
Ferruginous hawk *Buteo regalis*	-- / --/ S3S4	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats.	Potential for occurrence within grassland habitat as an infrequent forager; species was not observed during field surveys. Nearest known location: Southwest of San Luis Obispo (approximately 2.2 miles [3.5 km]) (CNDDB 2008).
California horned lark *Eremophila alpestris actia*	-- / -- / S3	Short-grass prairies, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	Potential for occurrence within grassland habitat; species was not observed during field surveys. Nearest known location: Camp San Luis off Highway 1 (CNNDB, 2008).
Sharp-shinned hawk (nesting) *Accipiter striatus*	- / CSC / --	Nests in mature mixed woodlands (e.g., ponderosa pine, blue oak, riparian deciduous, mixed conifer, and Jeffery pine habitats). Prefers riparian habitats.	Potential for occurrence within riparian habitat as an infrequent forager; species was not observed during field surveys.
Tricolored blackbird *Agelaius tricolor*	-- / CSC / S2	Open water with tall, dense cattails or tules. Large nesting colonies near croplands and insect prey base.	Potential for occurrence within riparian habitat for breeding; species was not observed during field surveys. Nearest known location: Chorro Reservoir east of Highway 1 (CNDDB 2008).
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC / SE / S1	Nests in dense riparian forests along the broad, lower flood-bottoms of larger river systems.	Marginal habitat is present along Los Osos Creek; species was not observed during field surveys. Nearest known location: San Luis Obispo (CNDDB 2008).

Table 4.3-5. (Continued)

Common Name *Scientific Name*	Status Federal/ State/ Other	General Habitat Description	Potential for Occurrence
White-tailed kite (nesting) *Elanus leucurus*	-- / FP / S3 / MNBMC	Open grasslands, meadows, or marshlands for foraging close to isolated dense-topped trees for nesting and perching.	Potential for occurrence within riparian and grassland habitats as an infrequent forager; species was not observed during field surveys. Nearest known location: Camp San Luis near Highway 1 (CNDDB 2008).
Mammals			
American badger *Taxidea taxus*	-- / CSC / S4	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats and grasslands; requires friable soils.	Potential for occurrence within grassland habitats; species was not observed during field surveys. Nearest known location: Los Osos Valley Road, SE of Foothill Road intersection (CNDDB 2008).
Morro Bay kangaroo rat *Dipodomys heermanni morroensis*	FE / SE / FP / S1	Coastal sage scrub with sandy soils on south side of Morro Bay.	Very unlikely to be present within the Project ROW; species was not observed during field surveys. Nearest known location: Pecho Site/Dunes Area, West of Pecho Road, between Shark Inlet and Hazard Canyon, 1982 (CNDDB 2008).
Pallid bat *Antrozous pallidus*	-- / CSC / S3	Deserts, grasslands, shrublands and forests. Most common in open, dry habitats with rocky areas for roosting.	Marginal roosting habitat occurs within the Project ROW; species was not observed during field surveys. Nearest known location: Morro Bay (CNDDB 2008).
San Diego desert woodrat *Neotoma lepida intermedia*	-- / CSC / S3	Moderate to dense vegetation with canopy cover, particularly abundant in rock outcrops and rocky cliffs.	Potential for occurrence within coastal scrub habitat; species was not observed during field surveys. Nearest known location: 0.2 mile (0.3 km) SSE of Peterson Ranch, east of the mouth of Coon Creek, WSW of Los Osos (CNDDB 2008).
Townsend's big-eared bat *Corynorhinus townsendii*	-- / CSC / S2S3	Roots in the open, hanging from walls and ceilings. Extremely sensitive to human disturbance.	No suitable roosting habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: East of Camp San Luis Obispo on Highway 1 (CNDDB 2008).
Western mastiff bat *Eumops perotis californicus*	-- / CSC / S3	Conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral, roosts in crevices in cliff faces, high buildings, trees and tunnels.	Marginal roosting habitat occurs within the Project ROW; species was not observed during field surveys. Nearest known location: San Luis Obispo (CNDDB 2008).

Table 4.3-5. (Continued)

Common Name *Scientific Name*	Status Federal/ State/ Other	General Habitat Description	Potential for Occurrence
Big free-tailed bat *Nyctinompos macrotis*	-- / CSC / S2	Low-lying arid areas, roost in high cliffs and rocky outcrops.	No suitable roosting habitat is present within the Project ROW; species was not observed during field surveys. Nearest known location: Morro Bay State Park (CNDDB 2008).

Status Codes:

Federal	FE	Listed as an Endangered species by the USFWS
	FT	Listed as a Threatened species by the USFWS
	MMPA	Protected under the Marine Mammal Protection Act
	BCC	Birds of Conservation Concern (USFWS)
State	SE	A State of California Endangered species as listed by the CDFG; data indicate the species is in serious danger of becoming extinct throughout all or a significant portion of its range.
	ST	A State of California Threatened species as listed by the CDFG; data indicate the species is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.
	FP	A wildlife species that is Fully Protected by law under the California Fish and Game Code.
	CSC	A State of California Species of Special Concern; those species that may become listed as rare, threatened, endangered, or fully protected in the near future.
	SA	A CDFG Special Animal
	CDFS	California Department of Forestry Species of Special Concern
	MNBMC	Fish and Wildlife Service Migratory Non-game Bird of Management Concern

CNDDB Global and State Ranks:

- G1 - Extremely endangered globally: <6 viable occurrences, or <1,000 individuals, or < 2,000 acres of occupied habitat
- S1 - Extremely endangered within State: <6 viable occurrences, or <1,000 individuals, or < 2,000 acres of occupied habitat
- S2 - Endangered: 6-20 element occurrences (EOs) or 1,000-3,000 individuals or 2,000-10,000 acres
- S3 - Restricted range, rare: 21-100 EOs or 3,000-10,000 individuals or 10,000-50,000 acres
- S4 - Apparently secure; some factors exist to cause some concern such as narrowing habitat or continuing threats

For the purposes of impact analysis, the following briefly presents the legal status and applicable ecological and range information for those special-status wildlife species identified within the proposed impact areas and/or for those that have a high likelihood of occurrence based on the presence of suitable habitat.

Invertebrates

Morro Bay blue butterfly (*Plebejus icarioides moroensis*). Morro Bay blue butterfly is known to occur in coastal dune scrub habitats and is almost always found on or in the immediate vicinity of its food plant host silver beach lupine (*Lupinus chamissonis)*. This species is locally common from March to July occurring within coastal San Luis Obispo County and western Santa Barbara County. The central dune scrub habitat within the coastal areas of the Project site provides suitable habitat for this species; however, Morro Bay blue butterfly was not observed during field surveys and the likelihood of occurrence is considered low.

Monarch butterfly (*Danaus plexippus*). The over-wintering habitats for the monarch butterfly are considered rare with a restricted range by the CNDDB (S3). Monarch butterfly typically roost in eucalyptus, pine, or cypress trees in dense concentrations throughout the winter. Autumnal roosts are abandoned early (November or December) by individuals seeking more favorable conditions, while permanent roosts begin forming in October and persist into February. Monarch butterflies are known to use eucalyptus trees throughout Morro Bay, Los Osos, and Montaña de Oro State Park (CNDDB 2008). Potential roosting habitat is present within the eucalyptus groves in and adjacent to the Project site; however, limited disturbance to the eucalyptus woodland habitat is expected to occur due to Project activities.

Morro shoulderband snail (*Helminthoglypta walkeriana).* The Morro shoulderband snail (MSS) occurs in coastal dune, coastal sage scrub, and maritime chaparral communities near Morro Bay and is most often found associated with sandy soils. Typically, live MSS are found near shrubs that exhibit dense, low growth with ample contact with the ground. The currently known range of MSS includes areas south of Morro Bay, west of Los Osos, and north of Hazard Canyon (USFWS 2001).

On December 15, 1994, the USFWS listed the MSS as an endangered species under the Federal Endangered Species Act. Approximately 5,100 acres (2,064 hectares) of critical habitat for MSS were designated by the USFWS in 2001. Areas designated as critical habitat provide primary constituent elements including: sand or sandy soils needed for reproduction; a slope not greater than ten percent to facilitate movement of individuals; and the presence of native coastal dune scrub vegetation (USFWS 2001). Critical habitat for MSS is divided into three units including Morro Spit and West Pecho (Unit 1), which encompasses lands managed by Montaña de Oro State Park (Dunes Natural Preserve) and the city of Morro Bay (north end of spit), including the length of

the spit and the foredune areas extending southward to Hazard Canyon (USFWS 2001).

Potential Project impacts to MSS critical habitat will occur in the immediate vicinity of MH 108F and MH 107.5F, and along the Rim Trail from Hazard Canyon Road to a line west of MH 94F (refer to Figure 4.3-1). Impacts will result from removal, driving on and over, and pruning vegetation along the cable route to provide access for cable installation and during erosion repair activities. MH 108F and MH 107.5F are located at the edge of the pavement on Sandspit Road. Access to these manholes will require a combination of pruning and tying back native vegetation, and potential relocation of any MSS found within the work area. Habitat impacts would be temporary, and would affect a total of approximately 5,000 ft^2 (465 m^2) of coastal scrub habitat for the two manholes.

San Luis Obispo pyrg (*Pyrgulopsis taylori*). The San Luis Obispo pyrg is a tiny gastropod that exists in freshwater habitats within San Luis Obispo County. This species is considered rare and endangered by the CNDDB (S1). *Pyrgulopsis* species (i.e., springsnails or pyrgs) live in springs and other permanent waters that are poorly integrated on arid western landscapes. *Pyrgulopsis* species are gill-breathing animals that have an entirely aquatic life cycle. Most species of this genus are assumed to be restricted to a single spring, spring complex, or local watershed due to their direct lack of a free swimming dispersal phase (Rocky Mountain Center for Conservation Genetics and Systematics 2007). San Luis Obispo pyrg is known to occur in Chorro Creek in Camp San Luis Obispo, north of the Project site. Potential freshwater habitat for San Luis Obispo pyrg exists within Los Osos Creek, which crosses the Project ROW; however, this species was not observed during field surveys and the likelihood of occurrence within the Project site is considered low.

Atascadero june beetle (*Polyphylla nubile*). The Atascadero june beetle occurs in agricultural fields, grasslands and sandy areas (Hoffman 2006). This species is known to occur within San Luis Obispo County, as well as within the city of San Luis Obispo (CNDDB 2008). The majority of the Atascadero june beetle lifecycle occurs in a larval stage under the soil surface. They pupate into beetles to mate and lay eggs from the early summer months through June, once every two to three years (Sutherland 2006). This species is considered rare and endangered by the CNDDB (S1). Potential habitat for Atascadero june beetle is present within the annual grassland and central dune scrub habitat within the Project site; however, this species was not observed during field surveys and the likelihood of occurrence within the Project site is considered low.

Globose dune beetle (*Coelus globosus*). The globose dune beetle is considered rare and endangered by the CNDDB (S1). Globose dune beetle inhabits coastal sand dune and foredune habitats from Sonoma County south to Mexico. It burrows beneath the sand surface and is most common beneath dune vegetation. This species is known to occur three miles north of Point Buchon (CNDDB 2008). Potential habitat for globose dune beetle is present within the central dune scrub habitat within the Project site; however, this species was not observed during field surveys and the likelihood of occurrence within the Project site is considered low.

Fish

South-central California coast steelhead (*Oncorhynchus mykiss irideus*). Steelhead are an anadromous form of rainbow trout that reproduce in freshwater, but spend much of their life cycle in the ocean, where increased prey density provides a greater growth rate and size. Steelhead have been divided into 15 evolutionary significant units (ESU) based on similarity in life history, location, and genetic markers. The south-central California coast ESU includes all naturally spawned populations of steelhead and their progeny in streams from the Pajaro River inclusive to, but not including, the Santa Maria River, California (NOAA National Marine Fisheries Service [NMFS] 1997). The south-central California coast ESU was listed as threatened by the NOAA Fisheries on August 18, 1997.

Optimal habitat for steelhead throughout its entire range on the Pacific Coast can generally be characterized by clear, cool water with abundant instream cover (*e.g*., submerged branches, rocks, logs), well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio (Raleigh *et al*. 1984). However, steelhead are occasionally found in reaches of streams containing habitat, which would be considered less than optimal. Steelhead within the central coast region begin moving up coastal drainages following the first substantial rainfall of the fall season typically entering freshwater from December to March. It is for this reason that the south-central California coastal steelhead trout are considered winter run fish. Spawning typically occurs in the spring in pool tail or riffle areas that consist of clean coarse gravels. Deposited eggs incubate for up to four weeks, with hatched fry rearing within the gravel interstices for an additional two to three weeks. Emergent fry rear at the stream margins near overhanging vegetation. Juveniles (smolts) after rearing for one to three years within freshwater and post-spawning adults out-migrate to the ocean from March to July, depending on stream flows. Therefore, juvenile steelhead can be found within

central coast streams year-round, while adults are more likely to be found from February to July.

Steelhead trout are known to occur within Los Osos Creek and tributary channels. This species was observed within Los Osos Creek during field surveys and should be considered as potentially present in riparian areas adjacent to the Project ROW. As such, Project activities in these areas, consisting of driving along the ROW and adjacent ranch roads, have the potential to impact this species. The Silva access road crosses Los Osos Creek at two unimproved crossings, which consist of shallow, sandy, and rocky areas. During low flow periods (*i.e.*, August through October), these crossings do not provide typical aquatic habitat for steelhead; however, during Project activities scheduled to occur during the first or second quarter 2009 (March or April), these crossings and adjacent stream habitat areas are likely to contain juvenile and out-migrating adult steelhead, thereby further increasing the potential for impacts to this species.

Amphibians

California red-legged frog (*Rana aurora draytonii*). The California red-legged frog (CRLF) was formally listed by the USFWS as federally threatened in 1996, and is considered a California Special Concern species by CDFG. CRLF historically ranged from Marin County southward to northern Baja California (Stebbins 1972; 2003). Presently, Monterey, San Luis Obispo, and Santa Barbara counties support the largest remaining CRLF populations within California. The CRLF prefers aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 2.3 feet (0.7 m), and the presence of fairly sturdy underwater supports such as cattails. The largest densities of this subspecies are typically associated with dense stands of overhanging willows and an intermixed fringe of sturdy emergent vegetation (Jennings and Hayes, 1994). CRLF typically breeds from January to July, with peak breeding occurring in February. Eggs are attached to subsurface vegetation, and hatched tadpoles require 11 to 20 weeks to metamorphose.

The CRLF has been documented as occurring in association with Los Osos Creek and tributary channels. This species should be considered as potentially present in riparian areas adjacent to the Project ROW. As such, Project activities in these areas, consisting of driving along the ROW and adjacent ranch roads, have the potential to impact CRLF. Specifically, during Project activities scheduled to occur during the first or second quarter 2009 (March or April), the Silva access road crossings at Los Osos

Creek are likely to contain flowing water and potential pool habitat for CRLF, thereby increasing the potential for impacts to this species.

Coast Range newt (*Taricha torosa torosa*). California newts (*T. torosa*) consist of two subspecies: Coast Range newt and Sierra newt. The former ranges discontinuously along the coast of California from Mendocino County to San Diego County. Optimum habitats reportedly consist of valley-foothill hardwood forest in association with rivers, creeks, ponds, and lakes. Coast Range newts have both terrestrial and aquatic life history phases. Adults are largely inactive, remaining dormant within subterranean refuges during most of the year. Following the first rains of fall, adults migrate to water, with mating occurring from September to May. The CDFG considers those populations of *T. torosa torosa* distributed from San Luis Obispo County southward as California Special Concern species. This subspecies is seasonally abundant within the upper reaches of several San Luis Obispo County creeks, including San Luis Obispo Creek near Cuesta Grade, Morro Creek near Cerro Alto campground, and the uppermost reaches of Toro Creek. Potential habitat for the Coast Range newt exists within Los Osos Creek; however, this species was not observed during field surveys and the likelihood of occurrence within the Project site is considered low.

Reptiles

Silvery legless lizard (*Anniella pulchra pulchra*) and Black legless lizard (*A. pulchra nigra)*. These species are listed as a species of special concern by the CDFG. These lizards are adapted for burrowing in sandy or loamy soils and through leaf litter, spending much of their time underground or beneath duff. Legless lizards may be active on the surface at night, remaining in subsurface moisture horizons during the day. The movement of the small limbless lizard appears to be primarily determined by soil temperature and moisture gradients (Jennings and Hayes 1994). Their behavior can be characterized as “desiccation avoidance” and their preferred soil temperatures are in the range of 70 to 82 º Fahrenheit (F) (21 to 28º Celsius [C]) (Bury and Bagooyen 1976). These lizards can be found on the soil surface when the surface temperature is warm (>70ºF [21ºC]), or near the soil surface during periods of high activity (morning and evening) (Jennings and Hayes 1994). Outside of abiotic factors, the movement ecology of this species is not well understood; however, it appears that in the short term they exhibit high site fidelity.

These species are known to occur within coastal dune scrub and introduced ice plant habitat, and are fairly common in sandy soils of Montaña de Oro State Park, Los Osos

and Morro Bay, yet they are difficult to detect. Minimal impacts are expected to occur to the central dune scrub habitat within the Project site; therefore, impacts to legless lizard habitat are considered less than significant.

Coast (California) horned lizard (*Phrynosoma coronatum frontale*). The coast horned lizard is a Federal species of concern and is considered rare by the CNDDB (S3). This species occurs in a variety of open habitats that provide sites for basking, sandy or sandy-loam substrates in which night-time burial can occur, and have a suitable prey base (the species feeds almost exclusively on native ants). It was historically distributed throughout the Central and Coast Range, but now occurs at scattered, discontinuous locations within this range. The California coast horned lizard produces clutches of 6 to 21 eggs from May to June and hatching typically occurs in August and September. Coast horned lizard was not observed during field surveys; however, this species may occur within the central dune scrub and coastal scrub habitats of the Project site.

Southwestern pond turtle (*Clemmys marmorata pallida)*. The southwestern pond turtle is a Federal species of concern and a California species of special concern. It is an aquatic turtle inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities; however, it requires upland sites for nesting and over-wintering. Stream habitat must contain large, deep pool areas (six feet) with moderate-to-good plant and debris cover, and rock and cobble substrates for escape retreats.

Southwestern pond turtle has been documented as occurring in association with Los Osos Creek and tributary channels. This species should be considered as potentially present in riparian areas adjacent to the Project ROW. As such, Project activities in these areas, consisting of driving along the ROW and adjacent ranch roads, have the potential to impact southwestern pond turtle. Specifically, during Project activities scheduled to occur during spring 2009 (March or April), the Silva access road crossings at Los Osos Creek are likely to contain flowing water and potential pool habitat for southwestern pond turtle, thereby increasing the potential for impacts to this species.

Two-striped garter snake (*Thamnophis hammondii*). The two-striped garter snake is a California species of concern. This species is an aquatic snake inhabiting perennial and intermittent streams with rocky beds bordered by willow thickets or other dense riparian vegetation. Two-striped garter snake utilizes small mammal burrows as over-wintering sites (Jennings and Hayes 1994). This species occurs historically and currently

throughout southern California streams. Two-striped garter snake was not observed during the field surveys conducted in May and June 2008, nor have any been reported within the vicinity of the Project area from past surveys. However, this species may occur within the riparian corridor of Los Osos Creek which intersects the Project ROW, and has the potential, although low, to be impacted by Project activities.

Birds

Cooper's hawk (*Accipiter cooperii*). Cooper's hawk is considered a California species of special concern during nesting periods, primarily due to the loss of riparian nesting habitat. Preferred nesting habitat consists of dense stands of coast live oak, riparian or other forest habitat located near water. This species is an uncommon permanent resident and a relatively common fall transient along the coast. Potential foraging and nesting habitat for Cooper's hawk is present within the riparian habitat in Los Osos Creek; however, this species was not observed during field surveys. Furthermore, Project activities in riparian habitat, consisting of driving along the ROW and adjacent ranch roads, are not expected to impact this species.

Sharp-shinned hawk (*Accipiter striatus*). The sharp-shinned hawk is not formally listed as endangered or threatened; however, during its nesting period this species is considered to be a California species of special concern by the CDFG. This species typically builds nests within mature mixed forests where they forage on small birds, and occasionally small mammals and insects (Sibley 2003). This species is a common winter visitor and resident along coastal ridges foraging in savanna woodlands, riparian and mixed deciduous forests (CDFG 2008, Bildstein and Meyer 2000). Potential foraging habitat for sharp-shinned hawk exists within the riparian habitat in and adjacent to the Project site; however, this species was not observed during field surveys. Furthermore, Project activities in riparian habitat, consisting of driving along the ROW and adjacent ranch roads, are not expected to impact this species.

Ferruginous hawk (*Buteo regalis*). Ferruginous hawk is an uncommon winter resident and migrant at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges. This species frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats (CDFG 2008). This species is considered rare, yet apparently secure by the CNDDB (S3, S4). Potential foraging habitat is present within the grassland communities along the Project ROW; however, this species was not observed during field surveys and the likelihood of occurrence within the Project site is considered low.

White-tailed kite (*Elanus leucurus*). The white-tailed kite is not formally listed as an endangered or threatened species; however, during its nesting period this species is considered to be a Federal migratory non-game bird of special concern by the USFWS. In addition, this species is also listed as California fully protected by the CDFG. Within San Luis Obispo County, white-tailed kites are common, especially along the coastline from Morro Bay north, though it is possible to find them in a variety of habitats near the coast. Populations do not seem to be migratory, and annual abundance variances are generally "apparent changes" meaning that abundance probably remains constant, but activity patterns and frequency of observation changes. Potential foraging habitat for white-tailed kite exists within the riparian and grassland habitats in and adjacent to the Project site; however, this species was not observed during field surveys. Furthermore, Project activities in riparian habitat, consisting of driving along the ROW and adjacent ranch roads, are not expected to impact this species.

Burrowing owl (*Athene cunicularia*). Burrowing owl is considered a species of special concern by CDFG during the breeding season (i.e., March to August). Burrowing owl has been nearly extirpated as a breeding species from coastal San Luis Obispo, Santa Barbara, Ventura, Los Angeles, and Orange counties (Shuford and Gardali 2008). Burrowing owl occurs in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. This species is a subterranean nester, which is dependent upon burrowing mammals, primarily ground squirrels. Potential breeding and foraging habitat is present within the grassland communities along the Project ROW; however, this species was not observed during field surveys and the likelihood of occurrence within the Project site is considered low.

California horned lark *(Eremophila alpestris actia).* California horned lark commonly occur in grasslands and other open habitats with low, sparse vegetation. This species is considered rare and endangered by the CNDDB (S2, S3). Horned lark nest in open grassland areas from March to July. Potential breeding and foraging habitat is present within the grassland communities along the Project ROW; however, this species was not observed during field surveys and the likelihood of occurrence within the Project site is considered low.

Tricolored blackbird (*Agelaius tricolor*). Tricolored blackbird is considered a species of special concern by CDFG during the breeding season (i.e., March to August). Tricolored blackbirds form large breeding colonies in freshwater marsh habitat containing dense tule, cattail, or willows for nesting and foraging. Tricolored blackbird is known to occur in Chorro Reservoir, north of the Project site (CNDDB 2008). Potential

nesting habitat is present in the riparian corridor of Los Osos Creek; however, this species was not observed during field surveys and the likelihood of occurrence within the Project site is considered low.

Other Protected Bird Species. A number of bird species potentially occurring on the Project site are protected during their nesting period under the provisions of the Federal Migratory Bird Treaty Act (MBTA) of 1918. Nesting habitat for species such as western scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), American goldfinch (*Carduelis tristis*), and lesser goldfinch (*Carduelis psaltria*) exists within the riparian habitat of Los Osos Creek. Furthermore, the coast live oak woodland, eucalyptus woodland, chaparral, and scrub communities within the Project site provide suitable nesting habitat for a variety of raptors and other bird species.

Mammals

Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*). This species is listed as endangered by both the Federal and State government, and is fully protected by the CDFG. The CNDDB (2008) documents a 1983 occurrence of Morro Bay kangaroo rat in the sandy dunes adjacent to the Sandspit Beach parking lot between Shark Inlet and Hazards Beach; however, since the mid-1980s the population of Morro Bay kangaroo rat has been estimated at 50 or fewer individuals (Holland and Villablanca 2000). Specifically, the entire population of this species, located in only six sites, is restricted to coastal scrub vegetation on sandy soil substrate within the southern edge of Morro Bay (Los Osos) and Montaña de Oro. Of these sites, Morro Palisades located north of the Project site, along the southern limits of Los Osos Valley Road, is the only site likely to support this species (USFWS, 1999). In addition, the Morro Bay kangaroo rat is completely isolated from other subspecies of *Dipodomys heermanni*. No Morro Bay kangaroo rats were observed during ground surveys conducted within the Critical Habitat along the proposed Project route between Pecho Road and the Pacific Ocean (Morro Group 1991). Further, focused Morro Bay kangaroo rat surveys conducted within portions of its historic range from 1995 to 1996 resulted in no observations of this species. Based upon those survey results, the probability for detection of Morro Bay kangaroo rat is considered less than one percent (Villablanca, personal communication 2008). The apparent absence of Morro Bay kangaroo rats in this area is attributed to a combination of long-term habitat loss, habitat alterations, and changes in plant species composition in relatively undisturbed sites (Morro Group 1991, Villablanca, personal communication 2008). Potential habitat for Morro Bay kangaroo rat is present within the central dune scrub communities within the vicinity of the Sandspit Beach parking lot and

associated Project ROW; however, the likelihood of occurrence within the Project site is considered low due to the apparent extirpation of Morro Bay kangaroo rat from the majority of its historic range, including the proposed Project area.

San Diego desert woodrat (*Neotoma lepida intermedia*). This species is listed as a California species of special concern by the CDFG. In San Luis Obispo County desert woodrats are restricted to rocky outcroppings. Occasionally, they extend their range from these outcroppings into diverse plant communities, but only in association with patches of prickly pear cactus (*Opuntia* sp.). This species typically constructs a nest structure with twigs, sticks, cactus parts, and various other materials. Nest structures are used for food caching, predator escape, and nesting. These stick piles are easily identified and are considered active if fresh green material is mixed in with older debris. Morro Rock and Black Hill (east of Morro Bay State Park) would be the closest areas with potential habitat of rocky substrate; therefore, San Diego desert woodrat is considered unlikely to occur within the Project site.

American badger (*Taxidea taxus*). American badger is a California species of special concern, which typically inhabits grasslands, farmland and forest edges within friable soils (CDFG, 1986 and Whittaker 1996). Badgers dig burrows with 8-12 inch elliptical entrances in friable soils which they utilize for cover, sleeping, hunting, storing food and breeding (CDFG 1986). They breed within the months of July and August (Whittaker 1996). Badgers do not hibernate, but occupy their burrows during torpor in the coldest part of the winter, remaining in the burrow for several days a week (Whittaker 1996). This species typically preys on small burrowing mammals, such as ground squirrels, rats and mice, and will also feed on birds, snakes and other reptiles. Badgers are nocturnal but are known to be active by day. Its home range varies from 590 acres to 4,200 acres (240 to 1,700 hectares). Based on literature review, the nearest known location of American badger has been recorded in San Luis Obispo near Los Osos Valley Road (CNDDB 2008). No American badger burrows were observed within the Project site during field surveys; however, given the presence of suitable habitat, known occurrences within the vicinity, and the mobility of the taxon, the likelihood of American badger to occur is considered to be moderate.

Based on the analyses, the special status species listed in Table 4.3-6 could occur within the onshore cable corridor and could be affected by the proposed cable pulling operations.

Table 4.3-6. Summary of Special Status Species within the Vicinity of Onshore Cable Pulling Operations

Plants	
Arroyo de la Cruz manzanita *Arctostaphylos cruzensis*	Morro manzanita *Arctostaphylos morroensis*
Cambria morning-glory *Calystegia subacaulis* ssp. *Episcopalis*	San Luis Obispo owl's clover *Castilleja densiflora* ssp. *obispoensis*
Invertebrates	
Morro shoulderband snail *Helminthoglypta walkeriana*	
Fish	
South-central California coast steelhead *Oncorhynchus mykiss irideus*	
Amphibians	
California red-legged frog *Rana aurora draytonii*	
Reptiles	
Coast (California) horned lizard *Phrynosoma coronatum frontale*	Southwestern pond turtle *Clemmys marmorata pallida*
Two-striped garter snake *Thamnophis hammondii*	
Mammals	
American badger *Taxidea taxus*	

Wildlife Movement Corridors

Wildlife migration corridors are connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Migration corridors may be local such as between foraging and nesting or denning areas, or they may be regional. Migration corridors are not unidirectional access routes; however, reference is usually made to source and receiver areas in discussions of wildlife movement networks. Habitat linkages are migration corridors that contain contiguous strips of native vegetation between source and receiver areas. Habitat linkages provide cover and forage sufficient for temporary habitation by a variety of ground-dwelling animal species. Wildlife migration corridors are essential to the regional ecology of an area because they provide avenues of genetic exchange and allow animals to access alternative territories as fluctuating dispersal pressures dictate.

Montaña de Oro State Park, Hazard Canyon, Los Osos Creek, and Prefumo Canyon, play an important role as migration corridors for many wildlife species moving within the

region. These migration corridors are especially critical through areas where human activities would otherwise prohibit or impair the movement of species between habitat areas such as dense urban centers, including the community of Los Osos to the north. Further, Montaña de Oro State Park provides habitat and refuge for a wide variety of migratory birds and rare, threatened, and endangered wildlife species.

Existing Marine Seafloor Habitats and Biota

The segment of the proposed Project that is on the seafloor is located within Estero Bay offshore Montaña de Oro State Park in water depths ranging from approximately 33 to 6,000 feet (10 to 1,830 m) MLLW. For this EIR, the region is defined as the seafloor and marine waters within these depth ranges between Morro Rock and Point Buchon. The Project site for this technical discussion is the 0.4 mile-wide (0.7 km) cable corridor at this depth within which seafloor habitat and biological data were collected during the Project-specific geophysical and biological surveys.

The region supports important habitat for seabirds, sea otters and sea lions, and cetaceans (whales, dolphins, and porpoises) (SAIC 2000). In addition to the diverse habitats of the Morro Bay estuary and surrounding lands, specific areas of importance include nesting areas for seabirds (including black oystercatchers [*Haematopus bachmani*], cormorants [*Phalacrocorax* spp], and pigeon guillemots [*Cepphus columba*]) along Point Buchon and foraging habitat for shorebirds, including the threatened western snowy plover (*Charadrius alexandrinus nivosus*), along Sandspit Beach inshore and north of the Project site. Estero Bay is also a foraging ground for marine mammals, and pinnipeds use the nearby beaches and rocky shoreline to haul-out throughout the year. Cetaceans that may be encountered in nearshore areas include bottlenose and common dolphins (*Tursiops truncatus* and *Delphinus delphis*, respectively), humpback whales (*Megaptera novaeangliae*) during summer and fall, and gray whales (*Eschrichtius robustus*). Gray whales are most common from December to May, being most abundant in January during the southward migration, and in March during the northward migration. Gray whales tend to come relatively close to Point Buchon (SAIC 2000).

In October of 2007, Applied Marine Sciences, Inc. (AMS) completed a remotely operated vehicle (ROV) survey of the seafloor habitats within the proposed cable route corridor between the 56 and 512 feet (17 and 156 m) isobaths. Data collected during that survey were used to characterize the seafloor habitat types, fishes, epifaunal (surface-living) invertebrates, and algae along the proposed route (AMS 2008). Details

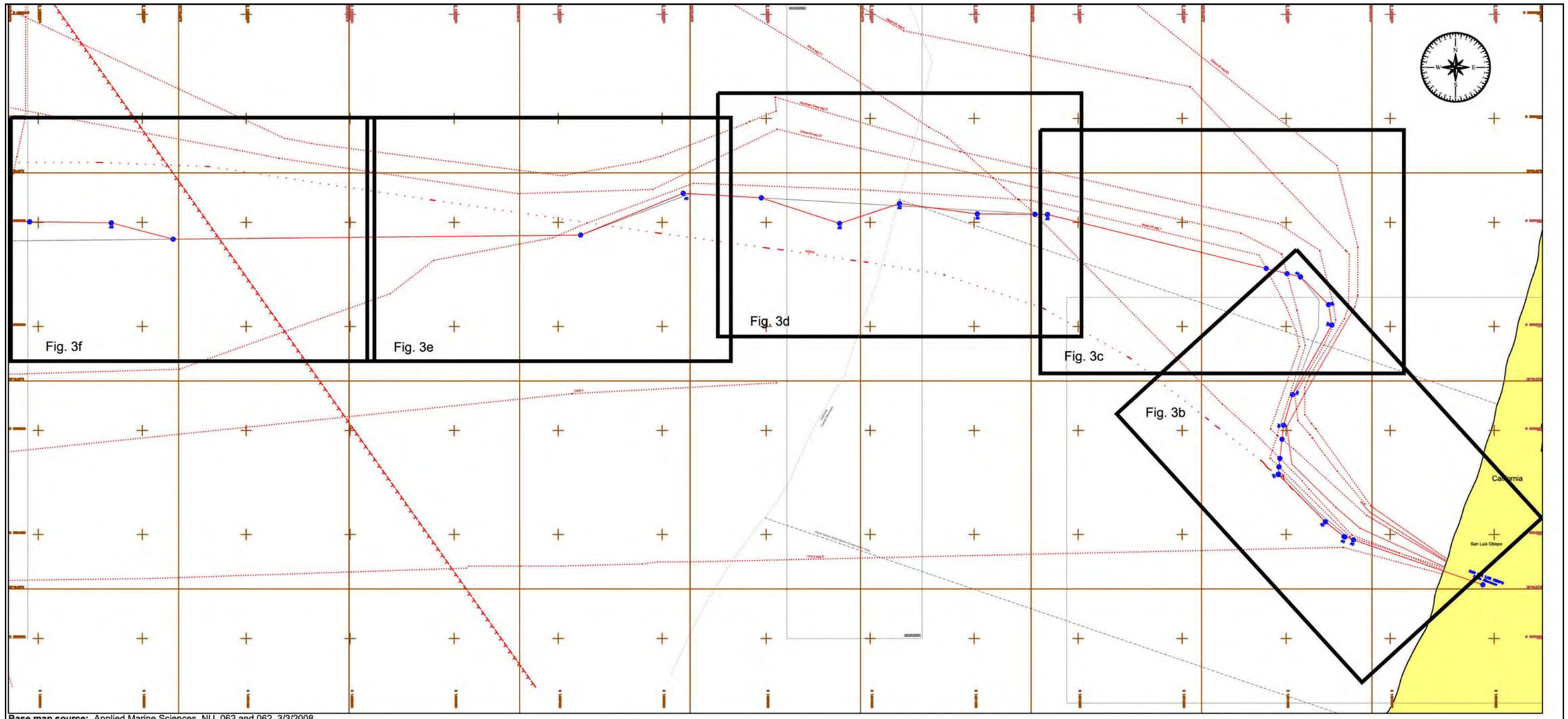
of the survey and methods, including a comprehensive species list, data tables, and biological observer logs from the survey, are provided in Appendix F, Survey Report.

Data collected from video and still photographs taken during the ROV survey were analyzed to characterize the seafloor habitats and associated biota. The ROV survey was conducted within an approximate 320-foot-wide (98 m-) cable ROW and focused on the proposed cable route. The ROV survey was divided into six segments, which are labeled Survey Segments A through F (see Figures 4.3-5 to 4.3-10); segment divisions were based on habitat type and water depth (AMS 2008). Table 4.3-7 shows the water depth and habitat types that were recorded in each segment.

Table 4.3-8 lists the percent cover of the various habitats observed within the cable corridor (AMS 2008). As shown in Table 4.3-8, the proposed cable route is characterized by sedimentary substrate (coarse sand to silt), which comprised 85.6 percent of the survey area. Rock, comprising both high-relief (>3 feet [>1 m]) and low-relief substrate, accounted for 3.5 percent of the surveyed seafloor.

The geophysical survey conducted prior to the ROV survey included side scan sonar data that were used to develop a seafloor habitat map of the survey area. Although most of the route inshore of the 6,000-foot (1,830 m) water depth is sedimentary, rocky habitat was detected during the geophysical survey; some of those features were observed during the ROV survey. The deepest rocky habitat, consisting of scattered rock features interspersed with soft sediment, was found in water depths of between 5,045 and 4,193 feet (1,538 and 1,278 m) (NEC 2008). Other solid substrate areas, consisting of isolated patches of “weathered rock” were found between the 3,395 and 3,110 foot isobaths (1,035 and 948 m). A more extensive area of higher-relief rock was recorded between the 2,940 and 2,765 foot isobaths (896 and 843 m) approximately 33 miles (mi) (53 km) offshore of the conduit (NEC 2008). Due to water depth constraints for the equipment, these deeper water rocky features were not included in the ROV survey.

The bathymetry and habitat types within a 0.6 mi-wide (1 km) area, centered on the proposed cable alignment, were provided in a series of maps included in the ROV survey report (AMS 2008). The following characterization of the seafloor habitats is based on the information provided in those maps and from observations within the approximate 100 foot-wide (31 m) ROV survey area of the specific route.



Base map source: Applied Marine Sciences, NU. 062 and 062, 3/3/2008

LEGEND

- Proposed Initial AAG S-5 Cable Route, and ROV Biological Survey Route
- Telecommunications in Service/ out of Service/planned cable position (As found in magenta)
- AC BMH Alter Course / Beach Manhole
- Chart Matchline
- Coastline (from Admiralty Charts)
- Final Proposed AAG S-5 Cable Route

NATURAL SCALE 1 : 10,000 at 28°N

0.0 0.2 0.4 km

(At Mid-Latitude of Chart)
TRUE SCALE 1 : 9245.21

APPLIED SCIENCES at&t

ROV SURVEY OF
Asia America Gateway Cable
Nearshore Delination of Seafloor
of Proposed AAG S-5
Cable Route

Source AT&T 2008

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

ROV SURVEY OVERVIEW
FIGURE 4.3-5

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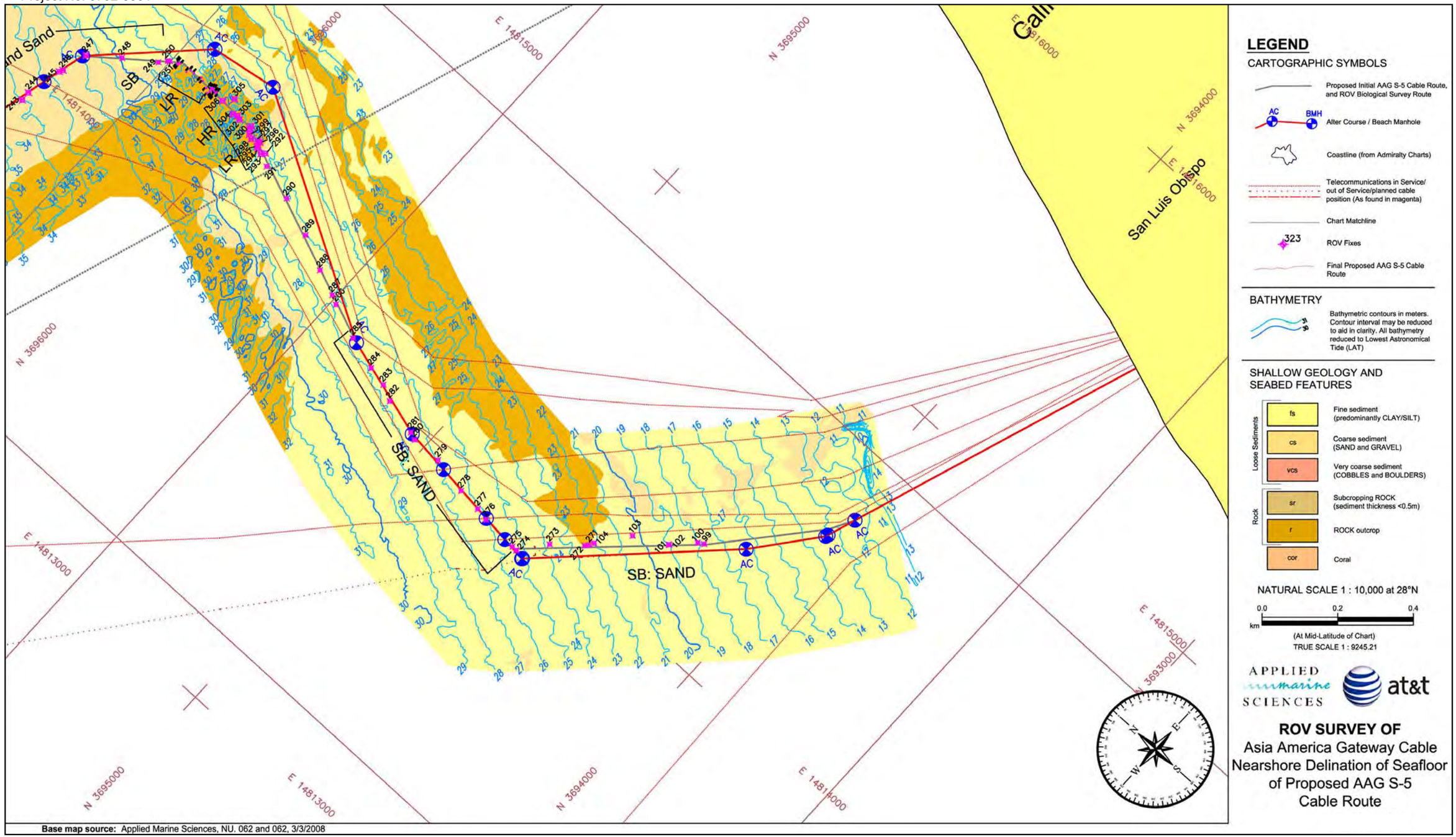
Project No. 0702-3361



Base map source: Applied Marine Sciences, NU. 062 and 062, 3/3/2008

Source AT&T 2008

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ROV SURVEY SEGMENT A and B
FIGURE 4.3-6

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